

**WHAT IS CLAIMED IS:**

1           1. A laboratory analyzer system comprising a base  
2     housing (1); a sample tray (4) movably supported on the  
3     base housing; at least two holding accommodations (5)  
4     arranged on the sample tray (4) for holding a sample  
5     container (32) for a sample that is to be analyzed; a  
6     drive mechanism (2) arranged inside the base housing and  
7     operable to move the sample tray (4) so that the sample  
8     container (32) is advanced in a stepwise motion along a  
9     prescribed track; an analyzer module installed on the base  
10    housing along the prescribed track and operable to analyze  
11    the sample as it arrives at the analyzer module; and a  
12    lid-opening device (50) arranged along the prescribed  
13    track at a location that the sample container (32) reaches  
14    before it arrives at the analyzer module (16), said lid-  
15    opening device (50) being operable to open a lid (32') by  
16    which the sample container (32) may be covered, said lid  
17    (32') having a predetermined shape and thickness (H).

1           2. The analyzer system of claim 1, wherein the lid-  
2     opening device (50) comprises an electromagnet (51)  
3     energizable through a switch (S) and configured to hold  
4     the lid (32') in an open position.

1           3. The analyzer system of claim 2, wherein the  
2     electromagnet (51) comprises a U-shaped core (52, 53, 54)

3 with poles (52, 53) facing the lid (32').

1 4. The analyzer system of claim 3, wherein the lid  
2 (32') has a thickness (H) and the electromagnet (51) is  
3 installed in a stationary condition in the lid-opening  
4 device (50) at a distance from the lid (32') corresponding  
5 to at least twice the thickness (H).

1 5. The analyzer system of claim 1, wherein the lid-  
2 opening device (50) is adapted to be installed on the base  
3 housing (1) by means of a non-destructively releasable  
4 mounting arrangement (17) consisting of at least two  
5 parts.

1 6. The analyzer system of claim 1, wherein the drive  
2 mechanism (2) is a rotary drive mechanism and the sample  
3 tray (4) is disk-shaped and driven in rotary movement by  
4 the rotary drive mechanism.

1 7. The analyzer system of claim 6, wherein the  
2 holding accommodations (50) are positioned along a circle  
3 at equal angular intervals and the lid-opening device (50)  
4 is offset from the analyzer module (16) by only one of  
5 said angular intervals.

1 8. The analyzer system of claim 2, wherein the  
2 analyzer module (16) is adapted to cooperate with a

control arrangement comprising at least one program to control the movements of the analyzer system, said at least one program having steps by which

- a) the lid-opening device (50) can be actuated to remove and hold the lid (32'),
- b) the sample container (32) is advanced to the analyzer module (16), so that an analysis can be performed,
- c) the sample container (32) is returned to the lid-opening device (50) and the lid (32') is set back on the sample container (32),
- d) a next following sample container is advanced to the lid-opening device (50).

9. The analyzer system of claim 2, wherein the analyzer module (16) is adapted to cooperate with a control arrangement comprising at least one program to control the movements of the analyzer system, said at least one program having steps by which

- a) the lid-opening device (50) can be actuated to remove the lid (32') from the sample container (32),
- b) an immediately preceding sample container is returned from the analyzer module (16) to the lid-opening device (50) and the lid (32') held from step a) is placed on said preceding sample container,
- c) the sample tray (4) is advanced so that the sample container (32) is moved to the analyzer module (16) for an analysis to be performed, while at the same time a